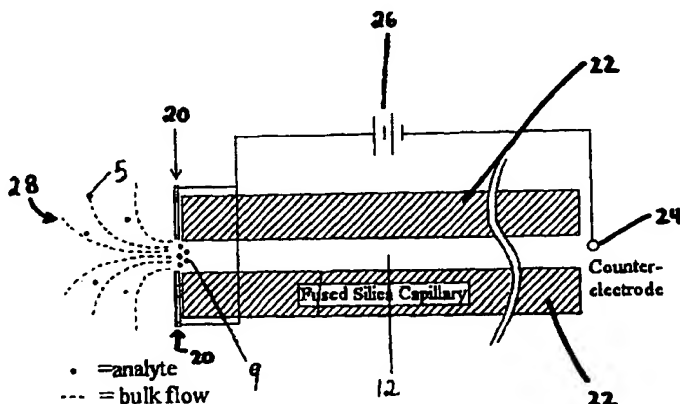


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(54) Title: CONTROL OF FLOW AND MATERIALS FOR MICRO DEVICES



The present invention generally relates to methods and devices for the control of the movement of fluids and electrically charged sample components within those fluids. More particularly, the present invention permits exclusion or concentration of specifically chosen sample components within a fluid. The present invention provides an analytical device, either microchip- or capillary-based, having the means to exclude specific sample components of interest from a capillary or channel for the purpose of preconcentration or control of movement of sample components. Such a control system includes a means for controlling the flow of the fluid in the channel and the placement of an electrode at the immediate entrance of each channel on such devices so that material may be directly manipulated by effects of both bulk flow and electrically driven migration.